Second Response - Claims

1. (amended) A high-density electrical connector comprising:

a rigid member having an array of electrical contact pads arranged in at least three rows with several electrical contact pads in each row,

a clamp housing attached to the rigid member,

a flexible printed circuit having a back surface, a front surface and a contact portion having an array of electrical contacts protruding outwardly of the front surface of the flexible printed circuit,

the contact portion being disposed between the clamp housing and the rigid member,

the array of protruding electrical contacts matching the array of electrical contact pads, and

an elastomer contact pressure pad disposed between the clamp housing and the flexible printed circuit pressing each of the electrical contacts into one of the electrical contact pads,

the elastomeric ~~ad~~ pad having an arcuate surface on one side engaging the back surface of the flexible printed circuit and a plurality of ribs on an opposite side engaging the clamp housing.

2. (original) The electrical connector as defined in claim 1 wherein the array of electrical contacts is an array of bump contacts.

3. (original) The electrical connector as defined in claim 1 wherein the array of electrical contacts is an array of gold dot contacts.

4. (amended) A high-density electrical connector comprising:

a rigid member having an elongate array of electrical contact pads arranged in several rows with several electrical contact pads in each row,

an adjustable clamp housing attached to the rigid member,

a flexible printed circuit including a flexible ribbon insulator having a back surface and a front surface,

the flexible printed circuit including a contact portion having an elongate array of electrical contacts that protrude outwardly of the front surface of the flexible ribbon insulator,

the contact portion being disposed between the clamp housing and the rigid member,

the elongate array of electrical contacts matching the elongate array of electrical contact pads, and

an elongate elastomeric contact pressure pad disposed between the clamp housing and the contact portion of the flexible printed circuit pressing each of the electrical contacts into one of the electrical contact pads,

the elongate elastomeric pad having an arcuate surface on one side engaging the back surface of the flexible insulator ribbon of the flexible printed circuit and a plurality of longitudinal ribs on an opposite side engaging the clamp housing.

5. (original) The high density electrical connector as defined in claim 4 wherein the elastomeric pad is resiliently defomed by the clamp housing to provide a substantially uniform contact pressure to the elongate array of electrical contacts.

6. (original) The high density electrical connector as defined in claim 4 wherein the elongate array of electrical contact pads and the elongate array of electrical contacts are rank and file arrangements comprising a plurality of longitudinal rows of contacts each comprising a short lateral row of contacts.

7. (amended) A high-density electrical connector comprising:

a rigid member having an elongate <u>rank and file</u> array of electrical contact pads <u>arranged in several rows with several electrical contact pads in each row</u>,

an adjustable clamp housing attached to the rigid member,

a flexible printed circuit including a flexible ribbon insulator having a back surface and a front surface,

the flexible printed circuit including a contact portion having an elongate rank and file array of electrical contacts that protrude outwardly of the front surface of the flexible ribbon insulator,

the contact portion being disposed between the clamp housing and the rigid member,

the elongate array of electrical contacts matching the elongate array of electrical contact pads, and

an elongate elastomeric contact pressure pad disposed between the clamp housing and the contact portion of the flexible printed circuit pressing each of the electrical contacts into one of the electrical contact pads,

the elongate elastomeric pad having an arcuate surface on one side engaging the back surface of the flexible insulator ribbon of the flexible printed circuit, and a plurality of longitudinal ribs on an opposite side engaging the clamp housing,

the longitudinal ribs being substantially parallel and the arcuate side having an apex that is substantially parallel to the longitudinal ribs.

8. (original) The high density electrical connector of claim 7 wherein the elastomeric pad is resiliently defomed by the clamp housing to provide a substantially uniform contact pressure to the elongate array of electrical contacts.

9. (original) The high density electrical connector of claim 8 wherein the arcuate surface is flattened and the longitudinal ribs are flattened whereby the one side and the other side are substantially planar and parallel to each other.

10. (original) The high density electrical connector of claim 8 wherein the clamp housing has narrow locator ribs for the elastomeric pad and the longitudinal ribs of the elastomeric pad are located inside the narrow locator ribs.

11. (original) The high density electrical connector of claim 8 wherein the flexible printed circuit has a number of longitudinal rows of contacts and the elastomeric pad has a lesser number of longitudinal ribs.